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ERICSSON INC.  
6300 LEGACY DRIVE  
M/S EVR C11  
PLANO, TX 75024

EXAMINER

FOX, BRYAN J

ART UNIT PAPER NUMBER

2617

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/881,229

Applicant(s)

OLSSON ET AL.

Examiner

Bryan J. Fox

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-23 and 26-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-23 and 26-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 2-6 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spear (US006192037B1) in view of Hess et al (US005471670A).

Regarding **claim 3**, Spear discloses a method for changing communication in a communication system including two base station controllers capable of controlling base transceiver stations (See figure 1), which reads on the claimed "mobile telecommunications system that includes a plurality of base station controllers". The system continuously determines whether a first link 110 is no longer the preferred link, such as when the link has gone down (see column 3, lines 25-31), which reads on the claimed, "method for handling a base transceiver station that has become orphaned as a result of a loss of a primary base station controller that normally controls the base transceiver station." If it is determined that the first link is no longer the preferred link, the communication is changed to the second link 112, which includes second base station controller 107 (see column 3, lines 30-34), which reads on the claimed "determining that contact has been lost between said base transceiver station and said

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primary base station controller," and, "identifying a secondary base station controller from among said plurality of base station controllers to adopt said base transceiver station, said base transceiver station contacting base station controllers identified in said list one at a time until said secondary base station controller is identified; and effecting a handover of said base transceiver station from said primary base station controller to said secondary base station controller." Spear fails to expressly disclose that the base transceiver station includes a memory having a list identifying base station controllers by which said base transceiver station is willing to be controlled.

In a similar field of endeavor, Hess et al disclose that a communication unit maintains a list of all the alternate communication resources with respect to their signal usabilities, therefore, should the need for handoff arise, a prioritized list of handoff candidates already exists (see column 6, lines 29-33).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Spear with Hess et al to include the above list in order to quickly and efficiently handoff to an alternate resource.

Regarding **claim 2**, Spear discloses that if the first link is no longer the preferred link, such as when the link has gone down, the communication is changed to the second link (see Spear column 3, lines 18-34), which reads on the claimed, "determining that contact has been lost between said base transceiver station and said primary station controller." Spear fails to expressly disclose that the base transceiver station does the determining.

In a similar field of endeavor, Hess et al disclose that the communication unit determines whether the communication resources interference level is acceptable and requests handoff when it is not acceptable (see column 9, lines 20-47).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Spear with Hess et al to include the above determination and request for handoff in order to save computation resources at a higher system level.

Regarding **claim 4**, the combination of Spear and Hess et al disclose contacting the base station controllers one at a time (see Spear column 3, lines 18-63) and that if the first link is no longer the preferred link, a second link is used, and if the second link is no longer preferable a third link may be used (see Spear column 3, lines 18-63), which reads on the claimed, "list...in order of priority." Spear fails to expressly disclose that the base transceiver station does the contacting.

In a similar field of endeavor, Hess et al disclose that a communication unit maintains a list of all the alternate communication resources with respect to their signal usabilities, therefore, should the need for handoff arise, a prioritized list of handoff candidates already exists (see column 6, lines 29-33). Since the communication unit has the list, it must be the communication unit that initiates the contact as claimed.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Spear with Hess et al to include the above prioritized list in the unit to initiate the contact in order to quickly and efficiently handoff to an alternate resource while saving higher level system resources.

Regarding **claim 5**, the combination of Spear and Hess et al discloses that if the first link is no longer the preferred link, a second link is used, and if the second link is no longer preferable a third link may be used (see Spear column 3, lines 18-63), which reads on the claimed, "said primary base station controller is the base station controller in said prioritized list which is of highest priority.

Regarding **claim 6**, the combination of Spear and Hess et al inherently provides support for waiting a period of time after determining that contact has been lost before contacting base station controllers because there is always a certain amount of delay for processing, etc. before an action may be performed.

Regarding **claim 26**, Spear discloses a method for changing communication in a communication system including two base station controllers capable of controlling base transceiver stations (See figure 1), which reads on the claimed "mobile telecommunications system," and, "base station system, said base station system including a plurality of base station controllers, each of which controls at least one base transceiver station". The system continuously determines whether a first link 110 is no longer the preferred link, such as when the link has gone down (see column 3, lines 25-31). If it is determined that the first link is no longer the preferred link, the communication is changed to the second link 112, which includes second base station controller 107 (see column 3, lines 30-34), which reads on the claimed "determiner that determines whether contact has been lost between a base transceiver station and a primary base station controller that normally controls said base transceiver station," and, "an identifier, coupled to said at least one base transceiver station for identifying a

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secondary base station controller from among said plurality of base station controllers to adopt said at least one base transceiver station, said at least one base transceiver station contacting said plurality of base station controllers, identified in said list, one at a time until said secondary base station controller is identified; a pointer which points to an element in said list to identify a potential secondary base station controller; and handover means for handing over said base transceiver station from said primary base station controller to said secondary base station controller.” Spear fails to expressly disclose that the base transceiver station includes a memory having a list identifying base station controllers by which said base transceiver station is willing to be controlled.

In a similar field of endeavor, Hess et al disclose that a communication unit maintains a list of all the alternate communication resources with respect to their signal usabilities, therefore, should the need for handoff arise, a prioritized list of handoff candidates already exists (see column 6, lines 29-33).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Spear with Hess et al to include the above list in order to quickly and efficiently handoff to an alternate resource.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spear in view of Hess et al as applied to claim 6 above, and further in view of Hendershot (US004817126).

Regarding **claim 7**, the combination of Spear and Hess et al fails to expressly disclose waiting a random period of time.

In a similar field of endeavor, Hendershot discloses waiting a random amount of time before transmitting (see column 5, lines 39-46).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Hendershot to include the above waiting a random amount of time before transmitting in order to avoid collisions as suggested by Hendershot (see column 5, lines 36-46).

Claims 8-10, 13-15, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spear in view of Hess as applied to claim 2 above, and further in view of Logsdon et al (US005890054A).

Regarding **claim 8**, the combination of Spear and Hess fails to expressly disclose sending a broadcast message to a plurality of base station controllers.

In a similar field of endeavor, Logsdon et al discloses that a mobile station broadcasts a distress packet requesting registration through an intermediary station when direct registration is not possible (see column 7, lines 21-54).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Logsdon et al to include the above broadcast message in order to request assistance in communication when a ordinary method is not working as suggested by Logsdon et al (see column 2, lines 1-26).



Regarding **claim 9**, the combination of Spear and Hess fails to expressly disclose that a broadcast message is sent to all base station controllers in a base station system.

In a similar field of endeavor, Logsdon et al discloses that a mobile station broadcasts a distress packet requesting registration through intermediary stations within range when direct registration is not possible (see column 7, lines 21-54).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Logsdon et al to include the above broadcast message in order to request assistance in communication when a ordinary method is not working as suggested by Logsdon et al (see column 2, lines 1-26).

Regarding **claim 10**, the combination of Spear, Hess and Logsdon inherently provides support for waiting a period of time after determining that contact has been lost before sending the broadcast message because there is a certain amount of delay for processing, etc. before performing an action.

Regarding **claim 13**, the combination of Spear and Hess fails to disclose that the identifying step includes said base transceiver station contacting a sub network manager of said mobile telecommunications system, and wherein said step of effecting a handover includes said sub network manager initiating said handover.

In a similar field of endeavor, Logsdon et al discloses that the mobile station multicasts a distress packet indicating the need of assistance from other mobile devices within range (see column 7, lines 21-54 and figure 3A), which reads on the claimed,

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“contacting a sub network manager of said mobile telecommunications system, and wherein said step of effecting a handover includes said sub network manager initiating said handover,” wherein the distressed station reads on the sub network manager.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Logsdon et al to include the above distressed station initiating the handover in order to serve stations that would otherwise be unable to communicate as suggested by Logsdon et al (see column 5, lines 16-24).

Regarding **claim 14**, the combination of Spear and Hess fails to disclose the step of the sub network manager contacting one or more of said plurality of base station controllers to identify said secondary base station controller.

In a similar field of endeavor, Logsdon et al discloses that the mobile station multicasts a distress packet to any other mobile devices within range, then selects the best response based on RSSI, for example (see column 7, lines 33-65).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Logsdon et al to include the above distress packet sent to any other devices within range in order to request assistance in communication when a ordinary method is not working as suggested by Logsdon et al (see column 2, lines 1-26).

Regarding **claim 15**, the combination of Spear and Hess fails to disclose the sub network manager ordering one of said plurality of base station controllers to be said secondary base station controller.

In a similar field of endeavor, Logsdon et al discloses that the distressed station selects the best responding station (see column 7, lines 55-65).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Logsdon et al to include the above distressed station selecting the responding station in order to get the station with the lowest RSSI or number of hops as suggested by Logsdon et al (see column 7, lines 55-65).

Regarding **claim 19**, the combination of Spear and Hess fails to disclose that the identifying step includes said base transceiver station contacting a sub network manager of said mobile telecommunications system, and wherein said step of effecting a handover includes said sub network manager initiating said handover.

In a similar field of endeavor, Logsdon et al discloses that the mobile station multicasts a distress packet indicating the need of assistance from other mobile devices within range (see column 7, lines 21-54 and figure 3A), which reads on the claimed, "said mobile telecommunications system includes a sub network manager, and wherein said determining step comprises said sub network manager determining that contact has been lost," wherein the distressed station reads on the sub network manager.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Logsdon et al to include the above distressed station initiating the handover in order to serve stations that would otherwise be unable to communicate as suggested by Logsdon et al (see column 5, lines 16-24).

Regarding claim 20, the combination of Spear and Hess fails to disclose the step of the sub network manager contacting one or more of said plurality of base station controllers to identify said secondary base station controller.

In a similar field of endeavor, Logsdon et al discloses that the mobile station multicasts a distress packet to any other mobile devices within range, then selects the best response based on RSSI, for example (see column 7, lines 33-65).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Logsdon et al to include the above distress packet sent to any other devices within range in order to request assistance in communication when a ordinary method is not working as suggested by Logsdon et al (see column 2, lines 1-26).

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Spear, Hess and Logsdon et al as applied to claim 10 above, and further in view of Hendershot.

Regarding **claim 11**, the combination of Spear, Hess and Logsdon et al fails to expressly disclose waiting a random period of time.

In a similar field of endeavor, Hendershot discloses waiting a random amount of time before transmitting (see column 5, lines 39-46).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear, Hess and Logsdon et al with

Hendershot to include the above waiting a random amount of time before transmitting in order to avoid collisions as suggested by Hendershot (see column 5, lines 36-46).

Regarding **claim 12**, the combination of Spear and Hess fails to expressly disclose waiting up to a third period of time after sending said broadcast message for a response, and repeating the step of sending a broadcast message if a response is not received within said third period of time.

In a similar field of endeavor, Logsdon et al discloses after sending the distress broadcast, the distressed mobile station waits a predetermined time to receive any response packets, then re-attempts registration (see column 7, lines 21-54 and figure 3A).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Logsdon et al to include the above waiting for a response, then retrying in order to regain communications as soon as possible in the case that conditions change.

Claims 16, 17, 18, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spear in view of Hess as applied to claim 3 above, and further in view of Nakamura et al (US005822361A).

Regarding **claim 16**, the combination of Spear and Hess fail to expressly disclose that a base station controller determines that contact has been lost between the base transceiver station and the primary base station controller.

In a similar field of endeavor, Nakamura et al discloses a system where the base stations determine whether contact with other base stations has been lost (see column 10, lines 20-28).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Nakamura et al such that the base station controllers determine whether contact with other base station controllers has been lost in order to allow the system to best respond to the loss of contact.

Regarding **claim 17**, the combination of Spear and Hess fails to disclose the use of a timer to determine the loss of contact.

In a similar field of endeavor, Nakamura et al discloses that a base station continuously transmits a frame, and when one of the base stations does not receive the frame for a period of five seconds, it is determined that contact has been lost (see column 10, lines 10-28).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Nakamura et al to include the above use of the timer to determine loss of contact in order to quickly and efficiently determine that contact has been lost and begin to remedy the situation.

Regarding **claim 18**, as applied to claim 17 above, the combination of Spear, Hess and Nakamura discloses that the base station sends signals to other base stations (see column 10, lines 10-28), which reads on the claimed, "predetermined ones."

Regarding **claim 27**, the combination of Spear and Hess fails to disclose the use of a timer to determine the loss of contact.

In a similar field of endeavor, Nakamura et al discloses that a base station continuously transmits a frame, and when one of the base stations does not receive the frame for a period of five seconds, it is determined that contact has been lost (see column 10, lines 10-28).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Nakamura et al to include the above use of the timer to determine loss of contact in order to quickly and efficiently determine that contact has been lost and begin to remedy the situation.

Regarding **claim 28**, the combination of Spear, Hess and Nakamura et al discloses the use of a sub network manager (see Spear figure 1).

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spear in view of Hess et al as applied to claim 3 above, and further in view of Naqvi (US006625460).

Regarding **claim 21**, the combination of Spear and Hess fails to expressly disclose readopting when connection is possible.

In a similar field of endeavor, Naqvi et al discloses that if the MSC is again ready to receive traffic on the previously down link, traffic is sent to that link (see column 13, lines 13-31).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear and Hess with Naqvi et al to include the above readoption in order to optimize system performance.

Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Spear, Hess and Naqvi et al as applied to claim 21 above, and further in view of Logsdon et al.

Regarding **claim 22**, the combination of Spear, Hess and Naqvi et al fails to disclose the base transceiver station requesting readoption.

In a similar field of endeavor, Logsdon et al discloses that the distressed station requests to be serviced (see column 7, lines 21-65).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear, Hess and Naqvi with Logsdon et al to include the above distressed station requesting service in order to request assistance in communication when a ordinary method is not working as suggested by Logsdon et al (see column 2, lines 1-26).

Regarding **claim 23**, the combination of Spear, Hess and Naqvi et al fails to disclose notifying the secondary base station controller that it wishes to be readopted.

In a similar field of endeavor, Logsdon et al discloses sending a distress packet and the base station that the mobile device is registered with is likely the one to receive the registration request broadcasted by the distressed station.



It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the combination of Spear, Hess and Naqvi et al with Logsdon et al to include the above distressed station requesting service in order to request assistance in communication when a ordinary method is not working as suggested by Logsdon et al (see column 2, lines 1-26).

### ***Response to Arguments***

Applicant's arguments filed May 19, 2006 have been fully considered but they are not persuasive.

The applicant argues the combination of Spear and Hess fails to disclose an orphaned BTS. The Examiner respectfully disagrees and asserts that the broadest reasonable interpretation of orphaned would include the BTS with a failed connection as discussed above in the rejection of claim 3. Further, claim 3 recites, "a base transceiver station that has become orphaned as a result of a loss of a primary base station controller that normally controls the base transceiver station." The Examiner reads that to define an orphaned base transceiver station as one that has lost a primary base station controller that normally controls the base transceiver station, and this limitation is disclosed by the combination of Spear and Hess.

The Applicant argues that the combination of Spear and Hess et al fails to disclose maintaining a list of acceptable BSCs in each BTS and when the connection between a BSC and the BTS goes down, the BTS uses the list to make a new connection. The examiner respectfully disagrees. As outlined in the action above, Spear discloses a method for changing communication in a communication system

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including two base station controllers capable of controlling base transceiver stations (See figure 1), or in other words, a handover at the BSC level. Hess is relied upon to teach the limitation of maintaining a list of devices that can be handed off to (see column 6, lines 29-33). The combination of Spear and Hess together teach the above limitation.

The Applicant argues the combination of Spear, Hess and Hendershot fails to disclose waiting a fixed time, then waiting a random time. The examiner asserts that a delay is inevitable in every action, and the delay reads on the fixed period of time.

The applicant makes similar arguments with respect to the remainder of the claims, however for the same reasons stated above, the examiner respectfully disagrees.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan J. Fox whose telephone number is (571) 272-7908. The examiner can normally be reached on Monday through Friday 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Bryan Fox  
August 5, 2006

JEAN GELIN  
PRIMARY EXAMINER  
